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Quality Engineering Test Report

SERIES: SD-25A 25W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE:
A. SD-25A-5 5V / 5A
B. SD-25A-12 12V / 2.1A
C. SD-25A-24 24V / 1.1A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 9.2~18VDC O/P : FULL LOAD	A:8.4~18VDC	P
2	LINE REGULATION	I/P : 9.2~18VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3% C:±0.2%	A: -0%~+0% B:-0.05%~+0% C:-0.03%~+0%	P
3	LOAD REGULATION	I/P : 12VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3% C:±0.2%	A:-0.12%~+0% B: -0%~+0% C: -0%~+0%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 9.2~18VDC SPEC : A:±2% O/P : MIN. TO FULL LOAD B:±1% C:±1%	A:-0.12%~+0% B:-0.05%~+0% C:-0.03%~+0%	P
5	RIPPLE&NOISE	I/P : 12VDC SPEC : A:100mVp-p O/P : FULL LOAD B:120mVp-p C:150mVp-p	A:24mV B:12mV C:10mV	P
6	DC INPUT CURRENT	I/P : 12VDC SPEC : 3.2A O/P : FULL LOAD	A:2.77A	P
7	MAX. INRUSH CURRENT	I/P : 12VDC SPEC : NONE O/P : FULL LOAD	A:13.7A	P
8	O/P VOLTAGE ADJ. RANGE	I/P : 12VDC SPEC : A:4.5~5.5V O/P : MIN. LOAD B:11~16V C:23~30V	A:4.39~6.21V B:9.65~16.37V C:19.15~33.58V	P
9	SET UP TIME	I/P : 12VDC SPEC : 2.5S O/P : FULL LOAD	A:340.8mS	P
10	EFFICIENCY	I/P : 12VDC SPEC : A:71% O/P : FULL LOAD B:72% C:75%	A:72.0% B:73.3% C:75.0%	P
11	OVER LOAD PROTECTION	I/P : 12VDC SPEC : 105%~150% O/P : TESTING	A:107.0% B:107.4% C:118.6%	P
12	OVER VOLTAGE PROTECTION	I/P : 12VDC SPEC : A:5.75V~6.75V O/P : 10% LOAD B:16.8V~20V C:31.5V~37.5V	A:6.51V B:17.67V C:33.29V	P
13	INSULATION RESISTANCE	SPEC : I/P-O/P 500VDC/100M Ohms MIN. I/P-FG 500VDC/100M Ohms MIN. O/P-FG 500VDC/100M Ohms MIN.	A: I/P-O/P : >100M Ohms I/P-FG : >100M Ohms O/P-FG : >100M Ohms	P
14	DIELECTRIC / WITHSTAND VOLTAGE	SPEC : I/P- O/P : 1500VAC/ 1 min (10mA CUT-OFF) I/P- FG : 1500VAC/ 1 min (10mA CUT-OFF) O/P- FG : 500VAC/ 1 min (10mA CUT-OFF)	A: I/P-O/P : <1.65mA I/P-FG : <2.52mA O/P-FG : <0.88mA	P
15	BURN-IN TEST	I/P : 12VDC O/P:FULL LOAD TA : 25 ºC BURN-IN DURATION : 4 hrs	NON BREAK	P
16	ENVIRONMENT TEST (SAMPLE A:)	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 12VDC O/P : FULL LOAD AMBIENT TEMPERATURE : 42.0 ºC	AFTER 4 hrs NON BREAK	P

NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>17</td><td>TEMPERATURE RISE TEST T rise OF PARTS</td><td>A: I/P : 12VDC AFTER 4 hr BURN-IN
O/P : FULL LOAD TA : 25°C
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td>Q1</td><td>MAIN TRANSISTOR</td><td>83.8°C</td><td>58.8°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER</td><td>67.5°C</td><td>42.5°C</td></tr>
<tr><td>D11</td><td>O/P DIODE</td><td>85.1°C</td><td>60.1°C</td></tr>
<tr><td>C33</td><td>O/P FILTER CAPACITOR</td><td>51.4°C</td><td>26.4°C</td></tr>
<tr><td>L1</td><td>O/P CHOCK</td><td>64.0°C</td><td>39.0°C</td></tr>
<tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>73.2°C</td><td>48.2°C</td></tr>
</table></td><td></td><td>P</td></tr>
<tr><td>18</td><td>LIFE CYCLE</td><td>A: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT
I/P : 12VDC O/P : FULL LOAD Ta : 25°C Tc33 : 51.4°C Life: 82139 hrs
I/P : 12VDC O/P : FULL LOAD Ta : 42°C Tc33 : 62.2°C Life: 38854 hrs</td><td></td><td>P</td></tr>
<tr><td>19</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td>A: FUSE : F 10A/250V G PH UL
INPUT DIODE : 1N5401
LINE FILTER : LF TF-345
TRANSFOMER : MT TF-333-R1 EI-25
POWER SWITCHER : 2SK2049 TO-220
OUTPUT DIODE : CTB-24L TO-220
OUTPUT CAPACITOR : 2200uF/16V(v) 105°C HL
INPUT CAPACITOR : 220uF/100V(v) 105°C HL
P.C.B : SD-25-R1 FR-4 2 OZ DS</td><td></td><td></td></tr>
<tr><th>DATE</th><th>SAMPLE</th><th>TEST RESULT</th><th>TEST</th><th>APPROVAL</th></tr>
<tr><td>980423</td><td>SD-25A</td><td>PASS</td><td>H.C.LIOU</td><td>Max Lin</td></tr>
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